Detecting *Pneumocystis jirovecii* by Real-time PCR Assay

**Clinical Indication and Relevance**

*Pneumocystis* pneumonia (PCP, formerly known as *Pneumocystis carinii* pneumonia) is the most common opportunistic infection in immunocompromised patients. Detecting *Pneumocystis jirovecii*, which causes infections in humans, in respiratory specimens by real-time PCR assay is used to assist in the diagnosis of PCP.

**Methodology**

The assay is performed on patients’ respiratory specimens. DNA is isolated from patient samples and amplified with specific primers in the presence of a TaqMan probe targeting the *Pneumocystis jirovecii* kex-1 gene region, and the presence of *Pneumocystis jirovecii* is detected using real-time PCR. Results are reported as positive or negative for *Pneumocystis jirovecii*.

**Sensitivity**

This assay can detect *Pneumocystis jirovecii* to a sensitivity of 10 copies per PCR reaction.

**Turn-around Time**

Five to seven working days

**Sample Requirements**

**Collect**

Respiratory specimen: bronchoalveolar lavage (BAL), bronchial wash, or sputum.

Transfer available respiratory specimen to a **sterile container** (minimum: 0.5 mL).

**Transport**

2-8°C (wet ice or cold packs). Do not freeze.

**Stability**

N/A

**Unacceptable Samples**

Peripheral blood, bone marrow, serum or plasma, CSF

**CPT Code(s)**

87798: Amplified probe technique, each organism

**References**